as a basis for the monograph in which he has described them. Of other groups, as, for instance, of Pigeons, Parrots, and Owls, the specimens are scarcely less numerous.

II. *Birds' Nests and Eggs.*—Seventy-seven nests of European Birds, with 1597 eggs; seventy-five nests of non-European Birds, with 769 eggs.

III. *Insects.*—This division contains nearly 23,000 species, with 70,000 specimens, and is perhaps the largest private collection in Germany. The order of Beetles, of which there are 16,640 specimens, is the most richly represented. Besides the Beetles there are also numerous specimens of the following orders, viz.:

Hymenoptera	2193	in number.
Neuroptera	186	,,
Lepidoptera (non-European)	413	,,
Lepidoptera (European)	800	,,
Diptera	1038	,,
Hemiptera	1439	,,
Spiders	368	,,
Scorpions	68	,,
Myriapoda	40	,,

IV. *Terrestrial, Fluviatile, and Marine Shells.*—Land and Fresh-water Shells, 13,000 specimens; Marine Shells, 2500 specimens.

This division may be also considered to be one of the richest of its kind, and it contains many original specimens discovered by Say, Adams, and other scientific men. A large number of wax models of Land-Snails, prepared from nature by the late Dr. Fr. Sturm, deserves particular mention, as no similar collection of models is perhaps to be found elsewhere. Of almost all classes of the animal kingdom there are specimens enough to form a good nucleus for anyone wishing to commence a collection.

This collection has been made use of for a long time in the compilation of several works, and it has enjoyed a high degree of favour because it contains the new and rare specimens described and illustrated in the works of Dr. Sturm himself. On this account, as well as on account of its extent, Prof. Burmeister has pronounced it to be "*a very first-rate scientific collection.*" Prof. Leiblein in Wurzburg, Prof. von Siebold in Munich, and Dr. Will in Erlangen, may be quoted as University Professors who have also expressed themselves in the very highest terms of the worth of the collection.

Should there be no purchaser for the whole collection, each division of the same will be sold separately.

On the Existence of Liquid and Solid Matters in the Trachean Vessels of Plants. By M. T. Lestiboudois.

As facts in opposition to the arguments adduced in support of the opinion that the trachean vessels of plants are aëriferous, the author indicates that vessels may appear empty because the liquids contained in them are perfectly limpid, or they may lose their fluids by age,

and will then emit bubbles of air; finally, the experiments cannot be regarded as conclusive if made upon branches separated from the trunk, as then the air would easily find its way into the vessels. Nothing can be concluded from the circumstance that the walls of these organs are not thickened by deposits, as many originally succulent organic elements are in the same case.

If liquids circulate in non-vascular plants, this only proves that the vessels are not the sole organs of circulation; and although water charged with nutritive substances enters by spongioles which contain no vessels, this does not prove that it does not penetrate subsequently into the latter organs.

As regards the course followed by the pollinic granules, no conclusion can be drawn from it, as there is not the least relation between the materials of fecundation and the sap.

If we have no demonstration that the trachean vessels are exclusively destined to the transport of gases, we find nothing more conclusive in the arguments advanced by Mirbel and Schultz, and other authors, who hold the opinion that these vessels serve for the circulation of liquids. They say that we see in them bubbles of air, which would not be visible if they were not circumscribed by a liquid—that the absorbed water diffuses itself so rapidly in plants that it cannot but follow the direct courses presented by these conduits—that when the branch of a tree is placed in a coloured liquid, the latter ascends in the vessels, into which it also penetrates even when absorbed by the roots—lastly, that as the elaborated sap circulates in the laticiferous vessels, the ascending sap must ascend by analogous ducts, &c.

But the liquids which surround the air-bubbles may have penetrated into the vessels when the observed tissues were cut into thin sections; those which ascend into the branches may be introduced by the gaping orifices of section; the colouring-matters which tinge the vessels may only impregnate their walls externally; lastly, if it be true that the proper juices of certain plants move in true vessels, it does not follow that there is anything analogous for the ascending sap, or that it is the office of the trachean vessels to transport it.

Direct observation shows that at the earliest period of the formation of the tissues the trachean vessels are full of juices, like the other organic elements, and that they are only deprived of these at a later period. But even then they may be traversed by liquids of considerable density.

The wood of certain plants, such as *Ulmus campestris*, *Robinia pseudo-Acacia*, and *Quercus Ilex* contains large vessels, the interior of which is occupied by a more or less consistent reticular tissue. This tissue evidently could not have been produced unless the vascular tubes had been filled with a liquid containing organic materials in solution.

Another observation proves that trachean vessels may contain substances which become thickened so as to obstruct their cavity. In a section of the stem of *Calamus Rotang* the author found, in

most of the fibres, the enormous vessel occupying their centre filled with a solid white substance, forming continuous or interrupted cylinders of variable length. This substance, when detached and put into water, breaks up into granules; and, singularly enough, the suspended grains were sometimes agitated by a very lively movement, although the cane from which they were derived had long been dry. This substance was contained in well-marked porous vessels.

In proof that the solid substances are deposited in the vessels during the life of the plant, the author cites an example to show that the solid matter, far from penetrating into the vessels after section, has a tendency at that time to escape from them. An old vine-stem, 6 centimètres in diameter, had been cut into pieces from 1 to 2 mètres in length. In a short time the cut surfaces were covered with an abundant, transparent, gummy layer. Having made new and very smooth sections, the author found on the following day that filaments of gummy matter 5 or 6 millimètres in length had issued from the large vessels. Hence it appears certain that, even at an advanced age, the trachean vessels may contain, not only gaseous bodies, but also substances which sometimes acquire a great density.—*Comptes Rendus*, Oct. 2, 1865, p. 544.

On the Organization of the Cypridinæ. By Professor Claus.

During a residence at Messina, Prof. Claus turned his attention to the little Crustacea which swarm in the waters of the sea. He was particularly struck by a small Ostracode of the genus *Cypridina*, in which he detected, even with a low power of the microscope, an accessory single eye in addition to the large, paired, compound eye, and a heart beating with regular pulsations. This latter discovery naturally surprised him, as in the other two families of Ostracoda (the *Cypridæ* and the *Cytheridæ*) the heart is entirely deficient. A more attentive examination of these Crustacea soon showed, however, that the *Cypridinæ* differ much more from the other Ostracoda than the *Cypridæ* and *Cytheridæ* from each other.

The fact that an organ so important as the heart may sometimes exist and sometimes be deficient in animals so nearly allied to each other is doubtless surprising, but by no means without precedent. Thus it has been demonstrated that the Copepoda are in the same case. M. Claus himself has shown that if the *Cyclopidæ*, *Harpactidæ*, and *Corycæidæ* are always destitute of a heart, the allied *Pontellidæ* and *Calanidæ* are always furnished with one. Moreover the author is not the only person who has observed the heart in the *Cypridinæ*, as M. Fritz Müller mentions it in a recent work (Für Darwin, 1864).

The solé visual organs hitherto known in the *Cypridinæ* were the paired eyes, in which M. Lilljeborg has detected a complication of organization very similar to that of the eyes of the Cladocera, although the latter are fused into a single mass, forming as it were a median